# **List of Contents**

## **NUMBER 1**

## PRINCIPLES OF DOCUMENT PROCESSING '94

PRINCI	PLES (	OF DOCUMENT PROCESSING '94
M. Murata	. xi	i Preface
H. Ahonen, H. Mannila and E. Nikunen	1	Generating Grammars for SGML Tagged Texts Lacking DTD
A. A. Müller	15	5 Abductive Retrieval of Structured Documents
M. Pittas	29	Incorporating Text Models in Electronic Document Readership
T. V. Raman and D. Gries	45	Documents Mean More Than Just Paper!
D. Rus and K. Summers	55	Geometric Algorithms and Experiments for Automated Document Structuring
C. Roisin, P. Claves and E. Akpotsui	85	Implementing the Cut-and-Paste Operation in a Structured Editing System
KH. Shin, K. Kobayashi and A. Suzuki	97	7 Tafel Musik: Formatting Algorithm of Tables
		NUMBER 2
A. Nagurney and K. K. Dhanda	1	Variational Inequalities for Marketable Pollution Permits with Technological Investment Opportunities: The Case of Oligopolistic Markets
M.S. Hwang	27	A Cryptographic Key Assignment Scheme in a Hierarchy for

K. K. Dhanda	1	Technological Investment Opportunities: The Case of Oligopolistic Markets
MS. Hwang	27	A Cryptographic Key Assignment Scheme in a Hierarchy for Access Control
C. K. Sleeman and C. J. Mode	33	A Methodological Study on Fitting a Nonlinear Stochastic Model of the AIDS Epidemic in Philadelphia
M. Wiktorsson, S. Varanasi and S. X. Bai	53	An Optimal Production Flow Control Problem with Impulsive Demand
L. Ridolfi and M. Macis	69	Identification of Source Terms in Nonlinear Convection Diffusion Phenomena by Sinc Collocation-Interpolation Methods
L. Yu, Y. Zhu and A. M. Righetto	81	Hybrid Grid—A Specialized Mesh System for Full Three- Dimensional Numerical Simulation in Natural Waters
E. Youness, J. B. Hughes and N. A. El-Kholy	97	Parametric Nash Coalitive Differential Games
H. Gzyl and F. Moreno	107	Maxentropic Analysis of Linear Programming Problems

## NUMBER 3

E. Magnucka-Blandzi, J. Popenda and R. P. Agarwal	1	Best Possible Gronwall Inequalities
F. Bloom	9	Internal Variable Modelling of Wave Propagation in Laminates with Nonlinearly Elastic Constituents
H. Luo and J. E. Angus	31	Data-Based Optimal Smoothing of a Wavelet Density Estimator
P. Broadbridge and J. M. Goard	45	Steady Unsaturated Flow in Two-Dimensional Scale- Heterogeneous Porous Media
H. T. Banks, P. Emeric and L. Plancke	55	Modeling of Nonsymmetrical Damage in Plate-Like Structures
TC. Lai, Y. N. Sotskov, N. Yu. Sotskova and F. Werner	67	Optimal Makespan Scheduling with Given Bounds of Processing Times
S. L. Kalla and A. Al-Zamil	87	Solution of a Diffusion of Dust Problem in Terms of Hypergeometric Functions
X. Zhou and X. Cai	95	General Stochastic Single-Machine Scheduling with Regular Cost Functions
V. B. Sarin	109	The Steady Laminar Flow of an Elastico-Viscous Liquid in a Curved Pipe of Varying Elliptic Cross Section
	123	Errata to "Monte Carlo and Quasi-Monte Carlo Methods"
		NUMBER 4
R. P. Agarwal, SL. Shieh and CC. Yeh	1	Oscillation Criteria for Second-Order Retarded Differential Equations
N. Bellomo	13	Nonlinear Models and Problems in Applied Sciences from Differential Quadrature to Generalized Collocation Methods
H. M. Byrne and S. A. Gourley	35	The Role of Growth Factors in Avascular Tumour Growth
G. Chen and L. Hong	57	A Genetic Algorithm Based Multi-Dimensional Data Association Algorithm for Multi-Sensor-Multi-Target Tracking
W. A. Maniatty and B. K. Szymanski	71	Fine-Grain Discrete Voronoi Diagram Algorithms in $L_1$ and $L_\infty$ Norms
JD. Lee	79	Indoor Robot Navigation by Landmark Tracking
E. P. Salathe and A. D. Gorman	91	Modeling Oxygen Concentration in Skeletal Muscle
H. Pham	103	Reliability Analysis of Digital Communication Systems with Imperfect Voters

E. Canon and M. Lenczner

L. Graziano, D. Iannece

and V. Lista

79

Models of Elastic Plates with Piezoelectric Inclusions Part I:

### **NUMBER 5**

H.-L. Hong, F.-H. Wong 1 Nonexistence of Positive Solutions of Quasilinear Differential and C.-C. Yeh **Equations** P. Li and N. F. Uren Analytical Solution for the Point Source Potential in an Anisotropic 3-D Half-Space I: Two-Horizontal-Layer Case P. Li and N. F. Uren Analytical Solution for the Point Source Potential in an Anisotropic 3-D Half-Space II: With Two-Vertical Boundary Planes Y. Yoshida The Optimal Stopped Fuzzy Rewards in Some Continuous-Time 53 **Dynamic Fuzzy Systems** G. Calandrini, L. Castro, 67 Ritt's Algorithm, Gröbner Basis and Discretization E. Paolini and A. C. Desages

### **NUMBER 6**

Models without Homogenization

107 Branching in Ferromagnetic Crystals

# RECENT ADVANCES IN MATHEMATICAL AND COMPUTATIONAL STUDIES IN DEMOGRAPHY

S. K. Dey	xi	Editorial Comments
S. Mitra	xiii	Preface
B. L. Keyfitz and N. Keyfitz	1	The McKendrick Partial Differential Equation and Its Uses in Epidemiology and Population Study
J. H. Pollard	11	Modelling the Interaction Between the Sexes
J. B. Pick	25	Natural and Spectral Convergence Measures of Leslie Matrices: Additive Norms and the Imprimitive Cases
S. Ta\uljapurkar and R. Lee	39	Demographic Uncertainty and the Stable Equivalent Population
S. Mitra and M. L. Levin	57	Modeling the Reciprocal of the Survivorship Function
C. Denny	69	A Model of the Probability of Survival from Birth
J. W. McDonald and A. T. Prevost	79	The Fitting of Parameter-Constrained Demographic Models

M Rousquet-Mélou and

### **NUMBER 7**

Ž. Prnić 1 Contribution to Computing Distribution of Temperature in **Production Wells** L. Jódar, P. Almenar 11 Exact and Approximate Solutions with A Priori Error Bounds and D. Goberna for Systems of Time-Dependent Wave Equations M. A. Noor A New Iterative Method for Monotone Mixed Variational Inequalities A Semi-Infinite Programming Model for Earliness/Tardiness Y. Li and D. Wang Production Planning with Simulated Annealing From the Boltzmann Equation to Generalized Kinetic Models in N. Bellomo and M. Lo Schiavo **Applied Sciences** R. P. Agarwal and Existence of Positive Solutions for Nonpositive Difference F.-H. Wong **Equations** T. Artikis, D. Jerwood, A Stochastic Model for Proactive Risk Management Decisions J. Moshakis and A. Voudouri Q. Lin and J. G. Rokne 97 Variable-Radius Offset Curves and Surfaces Multivalued Variational Inequalities and Resolvent Equations M. A. Noor and K. I. Noor 109 123 Erratum to "Navigation and Control of the Motion of a Riderless Y. Yavin Bicycle by Using a Simplified Dynamic Model"

### **NUMBER 8-10**

#### **COMBINATORICS AND PHYSICS**

vi Preface

D. E. Loeb	AI	riciace
M. Bousquet-Mélou D. E. Loeb and JB. Zuber	xiii	Dedication
JC. Angelès d'Audriac, M. Preissmann and A. Sebö	1	Optimal Cuts in Graphs and Statistical Mechanics
M. Baake, V. Elser and U. Grimm	13	The Entropy of Square-Free Words
E. Barcucci, F. Bertoli, A. Del Lungo and R. Pinzani	27	The Average Height of Directed Column-Convex Polyominoes Having Square, Hexagonal and Triangular Cells

A. Berkovich and B. M. McCoy 37 Generalizations of the Andrews-Bressoud Identities for the N=1 Superconformal Model SM(2,4v)A. Conway, A. J. Guttmann The Number of Three-Choice Polygons 51 and M. Delest H. Crapo and M. Senechal 59 Tilings by Related Zonotypes P. Di Francesco 75 **Enumerative Geometry from String Theory** P. Di Francesco, O. Golinelli Meander, Folding and Arch Statistics and E. Guitter A. M. Hamel, P. D. Jarvis and 149 Symmetric Functions, Tableaux Decompositions and C. M. Yung Fermion-Boson Correspondence Class-Sum Products in the Symmetric Group: Minimally-J. Katriel 161 Connected Reduced Class Coefficients Hyperbolic Coxeter Groups, Symmetry Group Invariants J.-M. Maillard 169 for Lattice Models in Statistical Mechanics, and the Tutte-Beraha Numbers 227 Combinatorics for Computing Relativistic Several Complex A. C. Manoharan Variable Domains N. Rivier 255 Combinatorics in Glass The Infinite-State Potts Model and Restricted F. Y. Wu 269 Multidimensional Partitions of an Integer J.-B. Zuber 275 A Classification Programme of Generalized Dynkin **Diagrams** Matrix Integrals and Map Enumeration: An Accessible A. Zvonkin 281 Introduction Y. Colin de Verdière 305 Graph Embeddings and Schrödinger Equation Ph. Combe and H. Nencka Frustration and Overblocking on Graphs 307 Systems Out of Equilibrium: Some Exactly Solvable B. Derrida 311 Models Configurational Entropy in Random Tilings: N. Destainville, R. Mosseri 313 Geometrical Analysis in Configuration Space and F. Bailly 315 Inversion Relations, the Ising Model and Polygons A. J. Guttmann Distance Sequences and Percolation Thresholds in P. Préa Archimedean Tilings The Statistical Mechanics of Vesicles T. Prellberg 321 Statistical Mechanics and the Theory of Link Invariants F. Y. Wu 323 F. Y. Wu Soluble Free-Fermion Models in d-Dimensions 325

### **NUMBER 11**

Flow in Deformable Porous Media: Modelling and Simulations A. Farina, P. Cocito and of Compression Moulding Processes G. Boretto A Stochastic Model of the HIV Epidemic for Heterosexual Transmission Involving Married Couples and Prostitutes: II. The W. Y. Tan and X. Zhu Chain Multinomial Model of the HIV Epidemic Navigation and Control of a System Composed of a Trolley and Y. Yavin and C. Frangos a Mounted Two-Link Manipulator Ekeland's Principle and Nuclear Cones: A Geometrical Aspect G. Isac 111 Estimation of Groundwater Flow Parameters Using Least K. R. Bailey and 117 B. G. Fitzpatrick Squares

### **NUMBER 12**

S. A. Kravchenko and F. Werner	1	Parallel Machine Scheuling Problems with a Single Server
M. V. Bartuccelli and S. A. Gourley	13	A Population Model with Time-Dependent Delay
S. Drabla, M. Rochdi and M. Sofonea	31	A Frictionless Contact Problem for Elastic-Viscoplastic Materials with Internal State Variables
Y. Liu, K. L. Teo and R. P. Agarwal	49	A General Approach to Nonlinear Multiple Control Problems with Perturbation Consideration
G. Ballinger and X. Liu	59	Permanence of Population Growth Models with Impulsive Effects
L. Aggoun, L. Benkherouf and L. Tadj	73	Filtering of Continuous-Time Markov Chains
D. Greenspan	85	A Molecular Mechanics-Type Approach to Turbulence
D. V. Uu and JM. Brankart	97	Seasonal Variation of Temperature and Salinity Fields and Water Masses in the Bien Dong (South China) Sea
LS. Shieh, WM. Wang and J. W. Sunkel	115	Model Conversions of Uncertain Linear System Using the Improved Block-Pulse Function Approach
J. A. Adam and C. Bellomo	125	Corrigendum to "Post-Surgical Passive Response of Local Environment to Primary Tumor Removal"

